



Closure Instruction Review: Steel Drums

Labelmaster Symposium - Chicago

September 23-25, 2009

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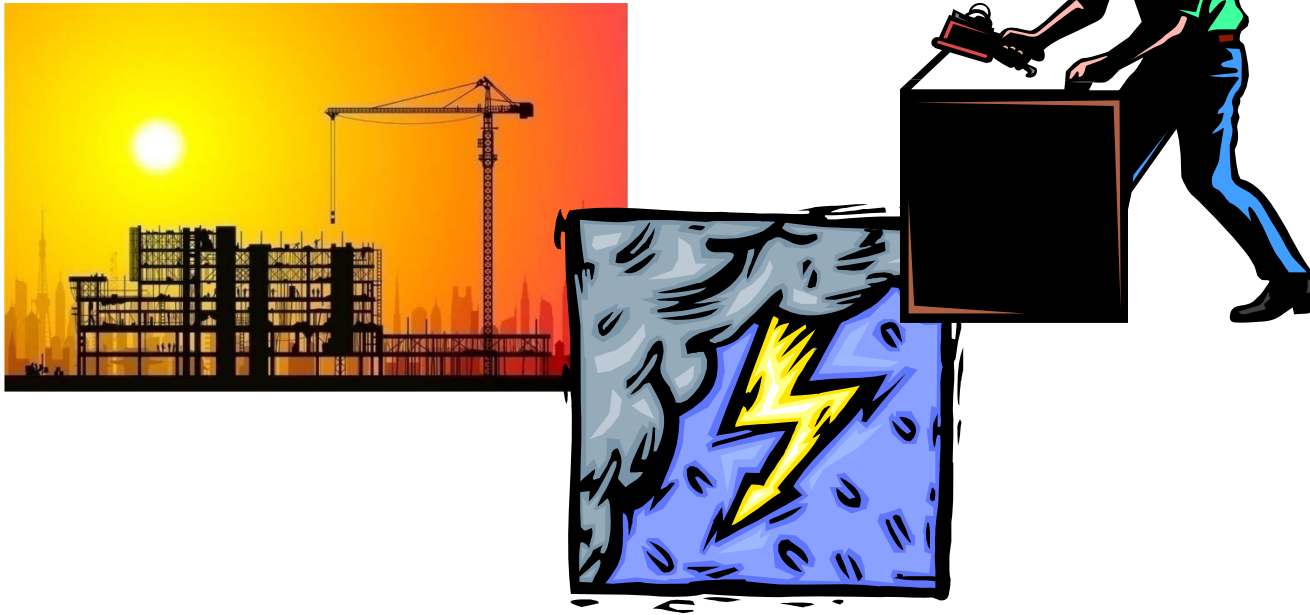
CFR49, 178.2(c)

“all shippers of hazardous materials are responsible”



Closure Instruction & Common Sense

“has now become a scientific process”



Hazardous Cargo Bulletin

February 2009

Paul Rankin of RIPA asks:

“do these instructions really help improve safety or are they more likely a source of confusion for shippers?”



SKOLNIK

STEEL CONTAINERS + PACKAGING

QAP / PQ 080

CLOSURE INSTRUCTIONS

In compliance with DOT 49 CFR §178.2 (c), persons shipping Skolnik drums must comply with the following closure instructions.

- ✓ not generic
- ✓ manufacturer specific
- ✓ must be current

CLOSURE INSTRUCTIONS

In compliance with DOT 49 CFR §178.2 (c), persons shipping Skolnik drums must comply with the following closure instructions.

BOLT RING CLOSURE FOR OPEN HEAD DRUMS

- CHECK GASKET** – to ensure cover gasket is properly fitted into cover groove (see Fig. 1 or 2).
- PLACE COVER ON DRUM** – being careful to properly seat gasket all around curl (see Fig. 3).
- POSITION & SEAT RING** – with lugs downward. Ensure the inner channel of the closure ring engages entire drum curl and cover (see Fig. 4). Apply downward pressure on cover. Use a non-sparking dead-blow mallet to further seat cover and drum curl into the inner channel of the ring.
- INSERT BOLT** - through the unthreaded lug of the ring. Assemble the locking hex nut onto the threaded end of the bolt and tighten into the threaded lug (see Fig. 5). Close the ring to an initial gap of about 1/2".
- TIGHTEN THE BOLT** - with a calibrated torque wrench while using downward pressure on the cover and hammering the outside of the ring with a non-sparking dead-blow mallet to further seat the ring. Continue tightening and hammering the ring until the torque stabilizes at 55 - 60 ft. lbs. and does not decrease when further hammering on the ring circumference is performed. Ring ends must not touch. (Effective 25 September, 2006 and in accordance with CFR 178.2(c), we have revised this procedure to use torque as the most effective closure requirement.)
- LOCK RING** – by tightening the nut against the unthreaded lug (see Fig. 6).

OPEN HEAD DRUM - LEVERLOCK CLOSURE

- CHECK GASKET** – to ensure cover gasket is properly fitted into cover groove (see Fig. 1 or 2).
- PLACE COVER ON DRUM** - being careful to properly seat gasket around curl (see Fig 3).
- OPEN LEVERLOCK** – and place expanded ring on to the drum cover with the vertical-skirt hugging the drum body (see Fig. 7)
- CLOSE LEVERLOCK** –by slowly and cautiously pulling the LEVERLOCK so that the outer ring engages the cover / body juncture. Downward pressure along with tapping the outside of the ring may assist in an even closure (see Fig. 8).
- ENGAGE LOCK** – to complete closure

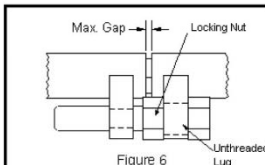
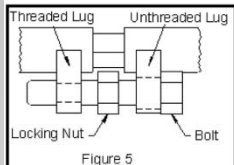
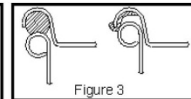
DRUMS WITH FITTINGS

- CHECK GASKETS** – and ensure gasket is properly seated on plug.
- TIGHTEN** – to specifications listed below, and do not cross thread.

PLUG TYPE	Tri-Sure			Rieke (plastic)	Rieke (steel)		Nuc-Fil filters
	Buna	Poly or Teflon	PE/PP (composite drums)	—	poly	all other	
¾" plug	12 ft-lbs	20 ft-lbs	—	9 ft-lbs	20 ft-lbs	15 ft-lbs	8 - 12 ft-lbs
2" plug	20 ft-lbs	30 ft-lbs	10 ft-lbs	20 ft-lbs	40 ft-lbs	30 ft-lbs	—

IMPORTANT
A drum is properly closed only when all steps are completed in the manner and sequence indicated.

If difficulties are encountered, do not ship the drum and call Skolnik for further instruction.



IMPORTANT:

- Under the applicable DOT regulations, any changes made to the method of closure or a closure component constitutes a change in the design type of this packaging, and invalidates the certification.
- After filling and prior to transport, the shipper should verify the torque of all closures to determine if the effects of heating and cooling or gasket relaxation have resulted in the need to re-tighten the closure.
- Drums (other than the composites) are tested at room temperature.
- Calibrated plug torque wrenches can be purchased from Skolnik.

INSTRUCCIONES PARA CERRAR

En Acuerdo con DOT 49 CFR §176.2 (c), Personas que Proveen Contenedores de Skolnik Devera Cumplir con las Siguietes Instrucciones de Cerrado.

INSTRUCCIONES PARA CERRAR ANILLO CON TORNILLO PARA CONTENEDORES ABIERTOS.

1. **INSPECCION EL GASKET** – Para asegurarse que el gasket este correctamente instalado y pegado en la Tapa (Ver Fig. 1 or 2).
2. **INSTALAR TAPA AL CONTENEDOR** – Asegurarse que el gasket de la Tapa cubra todo alrededor la boca del contenedor (Ver Fig. 3).
3. **POSICION DE LA TAPA CON EL ANILLO EN EL CONTENEDOR** – Con las Orejas del Anillo hacia abajo. Asegurarse que el interior del canal se enganche todo alrededor del diametro o Boca del Contenedor (Ver Fig. 4). Presione La Tapa hacia abajo. Use Mazo que no produzca chispas (Goma Dura) y golpee Alrededor del Anillo para una mejor posicion de la Tapa con el Contenedor dentro del Interior del Canal del Anillo.
4. **INSTALACION DEL TORNILLO** – Inserte tornillo en la Oreja sin Cuerda del Anillo. Instale Tuerca en el Tornillo, entre las dos orejas, Inserte Tornillo dentro de la Oreja con Cuerda del Anillo y apriete tornillo cerrando el anillo inicialmente aproximadamente 1/2" (Ver Fig. 5).
5. **APRETANDO EL TORNILLO** – Con Una Llave de Torque Calibrada. Presionando la Tapa Hacia Abajo Y Golpeando La Parte de Afuera del Anillo con un Mazo que no produzca chispas (Goma Dura). Continúe apretando y golpeando el Anillo hasta que la Llave de Torque se sostenga en 55-60 ft-lbs. Y que "No Disminuya" cuando golpee sobre la circunferencia del Anillo. Las Dos Puntas El Anillo "NO Deveran Tocarse". (Empezando el 25 de Septiembre de 2006 de Acuerdo con CFR 178.2(c), Cambiamos el Procedimiento del Uso de la Llave de Torque con una Forma Mas Efectiva del Cerrado de Contenedores Requerido).
6. **ASEGURANDO EL ANILLO** – Solamente apriete la Tuerca hacia el lado de la Oreja sin Cuerda del Anillo (Ver Fig. 6).

INSTRUCCIONES COMO CERRAR ANILLO "LEVERLOCK" (Anillo con Palanca) PARA CONTENEDORES ABIERTOS.

1. **INSPECCION EL GASKET** – Asegurarse que el gasket este correctamente instalado y pegado en la Tapa (Ver Fig. 1 or 2).
2. **INSTALAR TAPA AL CONTENEDOR** – Asegurarse que el Gasket de la Tapa cubra todo alrededor la boca del contenedor (Ver Fig. 3).
3. **ABRIENDO UN ANILLO "LEVERLOCK"** – Después de abrir el Anillo coloquelo abrazando el Diametro Exterior del Contenedor (Ver Fig. 7).
4. **CERRANDO UN ANILLO "LEVERLOCK"** – Jalando despacio y cuidadosamente la Palanca hasta que el Anillo se acomode alrededor de la Tapa y Contenedor juntos. Presione hacia abajo golpeando la parte de afuera del Anillo esto puede ayudar a un cerrado mas uniforme (Ver Fig. 8).
5. **ASEGURE LA PALANCA DEL ANILLO** – Para acompletar el Cerrado.

CONTENEDORES CON TAPONES

1. **INSPECCION LOS GASKETS** – y asegurese que el Gasket este apropiadamente instalado en el Tapon.
2. **MEDIDAS PARA APRETAR** – Siga las especificaciones en la lista de abajo, para evitar transroscar las cuerdas de los Tapones.

TIPO DE TAPON:	Tri-Sure (Acero)			Rieke (Plastico)	Rieke (Acero)		Filtros Nuc-Fil
TIPO DE GASKETS:	Buna	Poly or Teflon	PE/PP (composite drums)	—	poly	Otros	
Tapon de 3/4"	12 ft-lbs	20 ft-lbs	—	9 ft-lbs	20 ft-lbs	15 ft-lbs	8 - 12 ft-lbs
Tapon de 2"	20 ft-lbs	30 ft-lbs	10 ft-lbs	20 ft-lbs	40 ft-lbs	30 ft-lbs	—

PRECAUCION
Un Contenedor la cerrado apropiadamente solamente cuando se siguen todos los pasos completamente de la manera y en el orden indicado.
Si tiene alguna dificultad, No Mande el Contenedor y Llame a Skolnik para mas informacion.

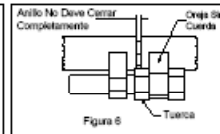
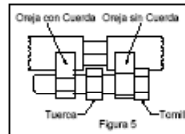
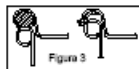


Figura 7 – Alina el Anillo para Ser Instalado

Figura 8 – Palanca devera Cerrarse Lentsemente

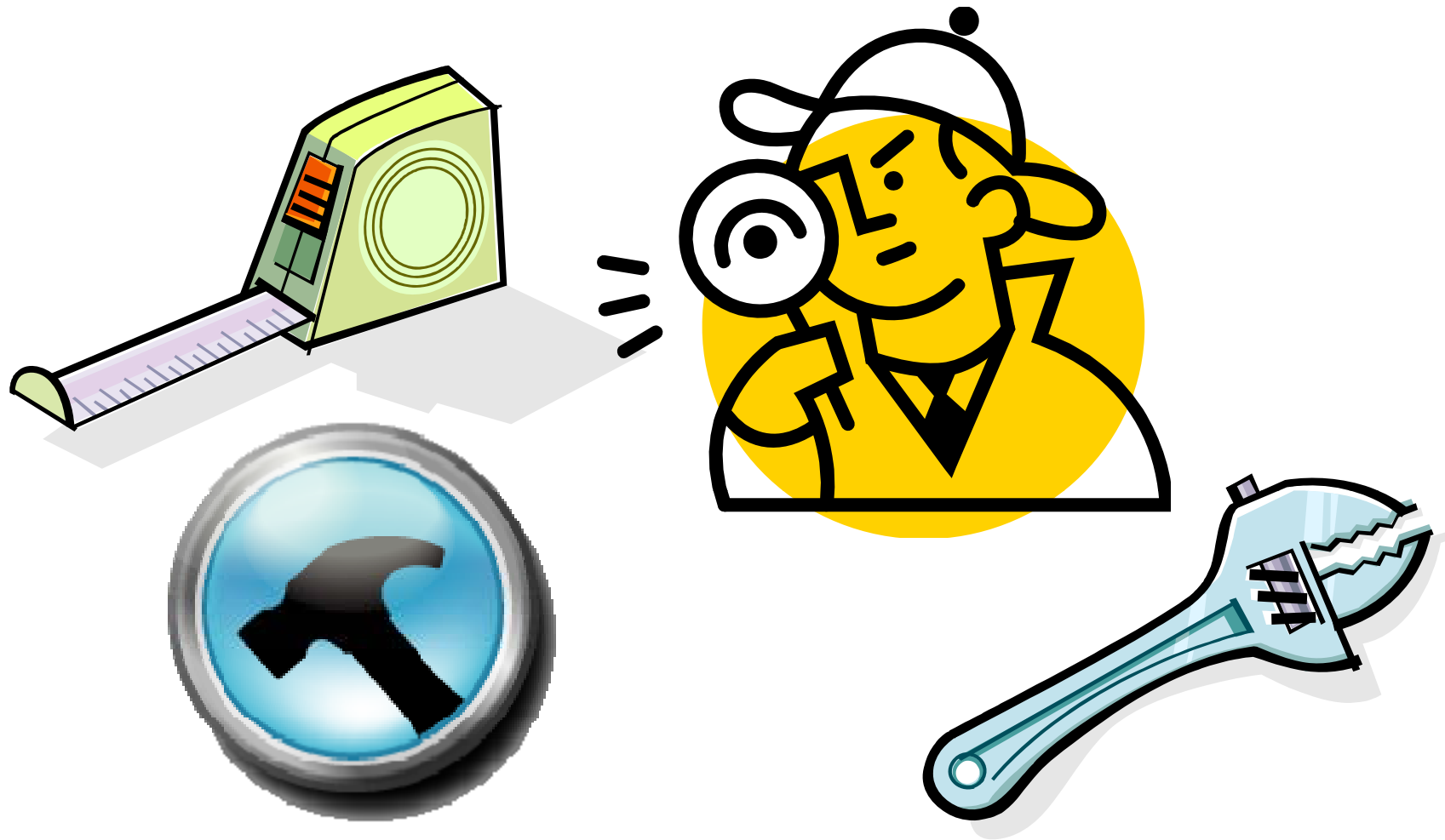
AVISO MPORTANTE:

1. De acuerdo a las regulaciones de DOT, Cualquier cambio que se haga al Metodo del Cerrado Estipulado de Anillos con Tapas Constituye un Cambio al Tipo de Cerrado, lo cual Pierde el Valor la Certificacion del Mismo.
2. Después de Llenar estos Contenedores y antes de Transportarse, la Persona Responsable Devera Asegurarse que el Torque este Correcto y determinar el hubo cambios en el Apretar por el Calor, Frio o talvez el Gasket perdion su Dureza el cual necesite Re-Apretarse.
3. Contenedores de Acero que no sean del Tipo con un Contenedor Plastico Adentro, Son Inspeccionados en un Cuarto a Temperatura Normal
4. Llaves de Torque Calibradas Pueden Comprarse y Ordenarse en La Compania Skolnik.

May I have 2 volunteers?

1. I have closed a steel drum
2. I have never closed a steel drum

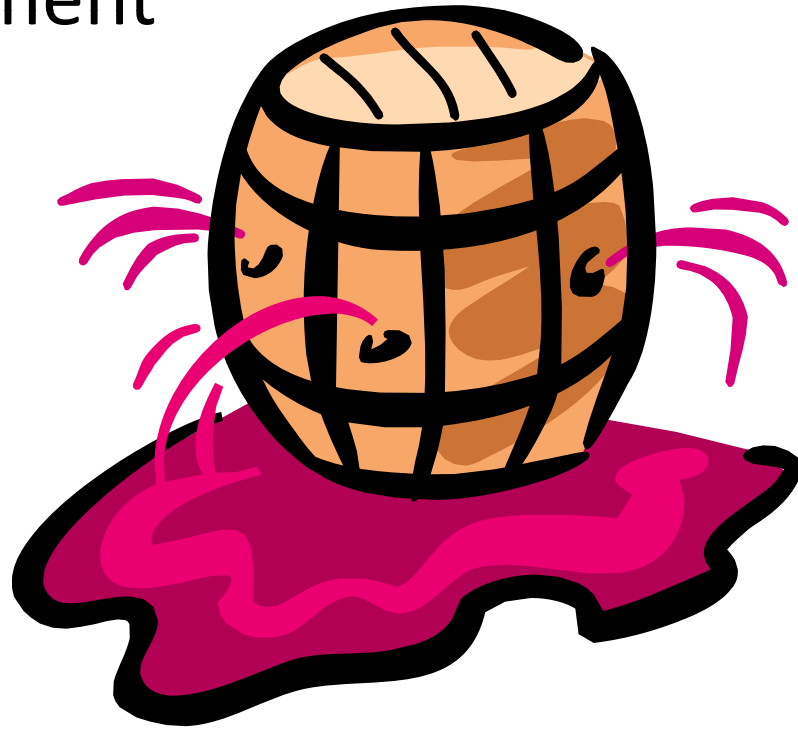




- the process that a filler, or re-shipper, must follow
- torque, dimensional measurements and visual safeguards
- re-torque before shipment

If not properly closed?

- should be quarantined and the manufacturer contacted for return or replacement



No Substitutions!!!

- If replacement parts are needed get original parts from manufacturer



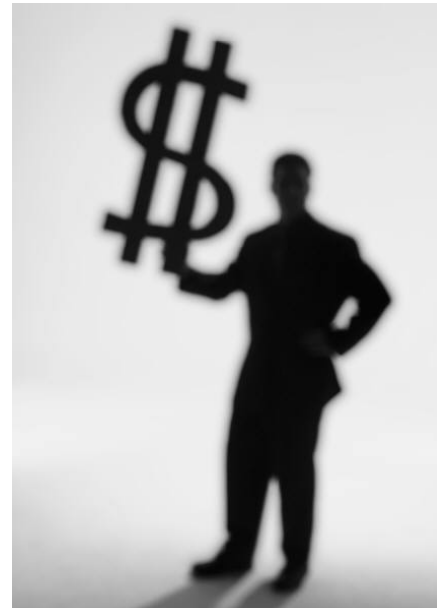
Return Logistics?

- must convey to their customers the need to present packagings for shipment that are in compliance



Retain Testing Certificates ?

- Though a manufacturer is responsible, it's a good idea for the shipper. Outdated and incorrect document retention exposes your company to a probable violation and fine.



Now is the time!

- Review your packaging purchases, Closure Instructions, training and documentation. If a DOT inspector does come to your door, be ready to comply with their requests and demonstrate that you are a compliant shipper.



With thanks to **Labelmaster!**



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